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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,679	04/13/2006	Efraim Garti	27354U	4615
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EXAMINER				
MARC, MCDIUNEL				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/575,679

Applicant(s)

GARTI, EFRAIM

Examiner

MCDIEUNEL MARC

Art Unit

3664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2007.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 68-93 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 68-93 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 13 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/5508)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

1. The application filed on 04/13/2006 has been examined. Claims 68-93 are pending.

Information Disclosure Statement

2. The information disclosure Statement (IDS) filed 07/06/2006 has been considered as indicated. Note the search reports are treated as statements of relevancy of the cited patent documents and/or publications and do not constitute prior art in and of themselves.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 68-92 are rejected under 35 U.S.C. 102(b) as being anticipated by Porat et al. (US 68642931).

As per claims 68, 92, Porat et al. 68642931 *a cleaning robot adapted to move in a swimming pool or the like in accordance with commands from a main controller therein (see Fig. 6, element 94), the robot when in use being free of any cables connected to an external power supply* (see Fig. 1, element 52 has been shown clear evidence of being

detachable from external power supply), and having: (a) a body unit with a battery power pack, adapted to move along the floor and/or walls of said pool (see Fig. 1, elements 40 and 42); (b) a tail unit comprising a head portion adapted to float on the surface of a pool and a connector designed for charging batteries or battery in said battery power pack by an external charger (see col. 1, lines 11-35); and (c) a tethering cable attached at least in use, to the body unit, said tethering cable being of sufficient length to allow the float of said head portion while the body unit is on the floor of the pool (see col. 1, lines 23-35, particularly "a battery that is secured to the moving pool cleaner, preferably on the interior of the housing, and is to be distinguished from a battery that is tethered to the moving pool cleaner as by a power cable extending away from the pool cleaner to a floating battery housing, or an otherwise remotely positioned battery.").

As per claim 69, Porat et al. 68642931 teaches *a cleaning robot wherein the head portion is adapted to submerge below the water surface upon encountering an obstacle* (inherently the wall has been considered as obstacles).

As per claim 70, Porat et al. 68642931 teaches *a cleaning robot wherein the head portion is of a geometry which minimizes the likelihood of entanglement thereof with obstacles* (see Fig. 1).

With respect to claim 72, teaches *a cleaning robot wherein the head portion comprises a float user interface, and is designed such that the float user interface is disposed at or near the surface of the pool, when the tail unit is in its working position* (having a part of floating above water falls under design choice for it is known to have floated material or unfloated material above water).

As per claim 73, Porat et al. 68642931 teaches *a cleaning robot wherein said tail unit further comprises a tail unit controller in communication with the main controller* (see Fig. 7, elements 95 and 94).

As per claim 74, Porat et al. 68642931 teaches *a cleaning robot wherein the float user interface is adapted to receive user input* (see col. 8, line 64 -- to -- col. 9, lines -9).

As per claim 75, Porat et al. 68642931 teaches *a cleaning robot wherein said tail unit further comprises at least one data presentation device* (see col. 9, lines 10-14).

As per claim 76, Porat et al. 68642931 teaches *a cleaning robot that further comprising an external battery charger, which is connectable to the tail unit for charging at least one battery in said battery power pack in the body unit of the robot* (Fig. 1).

As per claim 77, Porat et al. 68642931 teaches *a cleaning robot wherein the charger is adapted to communicate with the tail unit via a cable, and wherein another cable is used for connecting the tail unit with said battery power pack* (see Fig. 1, element 56).

As per claim 78, Porat et al. 68642931 teaches *a cleaning robot wherein the charger comprises at least one charger-side data presentation units* (see col. 10, lines 34-37 and col. 9, line 10-14).

As per claim 79, Porat et al. 68642931 teaches *a cleaning robot having a memory adapted to store a certain orientation of the robot, said controller being adapted to provide the robot with a command to align its orientation in accordance with the stored orientation* (see col. 10, lines 30-33).

As per claim 80, Porat et al. 68642931 teaches *a cleaning robot wherein said orientation is defined by the robot's initial orientation* (see col. 10, lines 30-33, moving the robot over rectilinear path being considered as having initial and final orientation).

As per claim 81, Porat et al. 68642931 teaches *a cleaning robot that further comprising a detector for detecting a wall when impacted by the robot, wherein the alignment of the robot's orientation is performed after at least one wall detection* (see Fig. 5 and Fig. 6, element 92).

As per claim 82, Porat et al. 68642931 teaches *a cleaning robot that further comprising an electro-mechanical drive means* (see Fig. 6, elements 20 and 34); *said first controller being adapted to detect the current through the drive means, whereby when the current exceeds a threshold, the controller assumes a wall impact to have occurred* (see Fig. 6, elements 86, 92 and 94).

With respect claim 83, *a cleaning robot wherein the threshold is determined by multiplying an average of the current passing through the drive means during one or more traversings of the pool floor by a constant* (determining the average of current passing through any device is a known feature in electrical art, therefore the above limitation does not have nay patentable weight).

As per claim 84, Porat et al. 68642931 teaches *a cleaning robot wherein the controller is adapted to allow the robot to perform a straight lap and a subsequent stepped lap, each between two wall detections, both laps comprising said alignment* (see col. 7, lines 48-55, wherein overlap has been considered as alignment), *the stepped lap also including rotation of the robot through a predetermined angle relative to its*

orientation during the straight lap (see Fig. 5), whereby the robot is adapted to move along two known mutually angled directions independently of the shape of the walls of the swimming pool (see col. 7, lines 48-55, wherein 90° has been considered as known angle).

As per claim 85, Porat et al. 68642931 teaches cleaning wherein said predetermined angle is 90 degrees (see Fig. 5).

As per claim 86, Porat et al. 68642931 teaches a cleaning robot wherein during the stepped lap, the robot moves for a period constituting a predetermined portion of the duration of the preceding straight lap (see Fig. 5), said portion being increased after a predetermined number of wall detections (see Fig. 92).

As per claim 87, Porat et al. 68642931 teaches a cleaning robot adapted to move in a swimming pool or the like, wherein the robot is preprogrammed for performing a plurality of cleaning modes (see Fig. 1), of which at least two are selected from a group comprising: (a) the robot scanning the floor surface of the pool, and ascending a sidewall at predetermined time intervals (see abstract); (b) the robot having a decreased speed and an increased suction; and (c) the robot executing a cycle comprising ascending a sidewall to the waterline, cleaning the waterline for a predetermined amount of time in a first direction with relation to the pool, descending the sidewall to the floor (see col. 1, lines 43-49), moving along the sidewall a predetermined distance in a second direction which is opposite the first direction, ascending the sidewall, and continuing cleaning in the first direction (see Fig. 5).

As per claim 88, Porat et al. 68642931 teaches *a cleaning robot cleaning robot adapted to move in a swimming pool or the like, adapted to move in the pool along two scanning directions obtained by adjusting the orientation of the robot in a predetermined way relative to a reference orientation thereof, said scanning directions having a predetermined angle therebetween, independently of the swimming pool's shape* (see Fig. 5).

As per claim 89, Porat et al. 68642931 teaches *a cleaning robot having a memory adapted to store the orientation of the robot, and a controller being adapted to provide the robot with a command to align its orientation in accordance with the stored orientation* (see Figs. 6-7, wherein the programmable processing being capable of storing command to align stored orientation).

As per claim 90, Porat et al. 68642931 teaches *a cleaning robot wherein said orientation is defined by the robot's initial orientation* (see col. 10, lines 30-33, moving the robot over rectilinear path being considered as having initial and final orientation as noted above).

As per claim 91, Porat et al. 68642931 teaches *a cleaning robot wherein said predetermined angle is 90 degrees* (see Fig. 5).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 71 is rejected under 35 U.S.C. 103(a) as being unpatentable over Porat et al. in view of Thrum et al..

As per claim 71, Porat et al. 68642931 teaches essential feature substantially as claimed, but Porat fail to teach *a robot being adapted to stop at a predetermined location when a predetermined number of wall encounters occur after the battery voltage drops below a predetermined amount.*

Thrum et al. teaches a *robot being adapted to stop at a predetermined location when a predetermined number of wall encounters occur after the battery voltage drops below a predetermined amount* (see page 20, section 5.3 paragraph 2).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the robot type of Porat et al., with the robot type of Thrum et al., because this modification would have introduced battery monitoring system into Porat's et al., so that the robot can return to the charger, thereby improving the efficiency and the reliability of the cordless pool cleaning robot.

8. Claim 93 is rejected under 35 U.S.C. 103(a) as being unpatentable over Porat et al. in view of Young et al. (US 7144057).

As per claim 93, Porat et al. 68642931 teaches essential features of the invention substantially as claimed, but Porat et al. fail to teach *a cleaning robot wherein the means is a digital compass integrated onto the controller*.

Young et al. 7144057 B1 teaches substantially *a cleaning robot wherein the means is a digital compass integrated onto the controller* (see col. 3, 3-4).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the cleaning type of Porat et al., with the digital compass type of Young et al., because this modification would have introduced the digital compass Porat's et al.'s, so that the GPS sensor can communicate with the digital compass, thereby improving the efficiency and the reliability of the cordless pool cleaning robot.

Art Unit: 3664

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited documents are of general interest.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MCDIEUNEL MARC whose telephone number is (571)272-6964. The examiner can normally be reached on 6:30-5:00 Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Khoi Tran can be reached on (571) 272-6919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/McDieunel Marc/

Examiner, Art Unit 3664

Thursday, February 26, 2009

/KHOI TRAN/

Supervisory Patent Examiner, Art Unit 3664

